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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,083	03/17/2000	Dave Genovese	MATP-592US	4196

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EXAMINER	
SHANNON, MICHAEL R	

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/528,083	GENOVESE ET AL.	
	Examiner	Art Unit	
	Michael R. Shannon	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 6-11, filed January 22, 2004, with respect to the rejection(s) of claim(s) 1, 6, 9, and 10 under 35 USC 103(a) as being obvious in view of Reitmeier, Limberg, and Kim and the arguments with respect to the rejections of claims 2-5 and 7-8 under 35 USC 103(a) as being obvious in view of Reitmeier, Limberg, Kim and in further view of Patel have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Grabb (USP 6,538,704), Limberg (USP 6,445,425), and Henderson (USP 4,254,506).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabb (USP 6,538,704), in view of Limberg (USP 6,445,425).

Regarding claim 1, the claimed "apparatus for deriving a channel map for a digital television (DTV) receiver", generally met by the DTV receiver front end displayed in Figure 1 of Grabb, is further met as follows:

- The claimed "processor including a channel map data structure" is met by Control Microprocessor 111 and Data Memory 203 within database 112,

which contains a channel occupancy database time indexed. The microprocessor 111 constructs and maintains the database 112, which contains information on each television channel [col. 3, lines 13-15].

- The claimed "tuner, controlled by the processor to tune to a specified channel and provide a tuned television signal having an amplitude" is met by NTSC tuner 103, which sends an output signal with a measurable signal strength (amplitude) to the channel measurement module 113 and microprocessor 111 [col. 3, line 66 – col. 4, line 3 & col. 3, lines 15-18].
- The claimed "demodulator coupled to the tuner to demodulate the tuned television signal" is met by the NTSC Audio/Video Decoder 105 and Display Format 106. The Decoder provides a decoded (and therefore, inherently demodulated) output signal to display circuitry 106 [col. 2, line 66 – col. 3, line 1].
- The claimed "amplitude detector coupled directly to the tuner to provide a measure of the amplitude of the tuned television signal prior to the demodulation of the tuned television signal" is met by the Channel Measurement A/D 113, which is coupled directly to tuner 103 before the demodulation which takes place in Decoder 105 and records the signal strength (amplitude) of the channel [col. 4, line 1].
- The claimed "comparator, configured to compare the measure of amplitude provided by the amplitude detector to a threshold value and to provide an output signal having a first value if the measure of amplitude is

greater than the threshold value and having a second value otherwise, wherein the processor is responsive to the output signal of the comparator having the first value, to change a value in the channel map data structure to indicate that the specified channel is received by the DTV receiver" is not met explicitly by the Grabb reference. While Grabb does teach acquiring an amplitude value from the signal (recording the signal strength of the channel, as discussed above), he does not explicitly disclose that the value is compared with a threshold value to determine the validity of the received signal. The Limberg reference, as noted in previous Office Actions, teaches a threshold detector 25 responsive to the detected amplitude exceeding a prescribed threshold value for determining that the TV signal currently being received is a digital television signal [col. 10, lines 50-57]. The threshold detector 25 [Fig. 1] has an output signal to the AFT Selector 23, which inherently indicates to the AFT Selector whether or not the amplitude exceeded the prescribed threshold value. Furthermore, the Grabb reference makes discusses data entered in a database based on detection of a valid transmitter and how strong the signal is in order to create a channel map (Channel occupancy database time indexed of Figure 2) [col. 3, lines 38-45]. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a comparator, in order to compare a threshold amplitude value to a signal amplitude value instead of or as well as the functionality discussed in

column 3, lines 38-45 of Grabb, for the purposes of "determining that the TV signal currently being received is a digital television signal".

Regarding method claim 6, see the above rejection to similar apparatus claim 1.

Regarding claim 9, the claimed "method according to claim 6, further including the step of repeating the method of claim 6 for all possible channel frequencies that may be tuned by the DTV receiver" is met by the Grabb discussion of a continuous cycle through all of the entries in the channel occupancy database stored in memory 203 [col. 4; lines 26-31].

Regarding claim 10, the claimed "method according to claim 9, further including the step of periodically repeating the method of claim 9 at predetermined intervals to maintain a current channel map" is met by the fact that when the end of the database of channels is reached, the microprocessor starts over at the beginning and continues cycling until the channel is changed by the viewer [col. 4, lines 26-31].

4. Claims 2-5, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabb (USP 6,538,704), in view of Limberg (USP 6,445,425) as applied to claims 1, 6, 9 and 10 above, and further in view of Henderson (USP 4,254,506).

Regarding claim 2, the claimed "demodulator [that] demodulates the tuned television signal to provide a baseband DTV signal" is met by the NTSC Audio/Video Decoder 105 and Display Format 106. The Decoder provides a decoded (and therefore, inherently demodulated) output signal to display circuitry 106 [col. 2, line 66 – col. 3, line 1]. The claimed "processor further including: a user interface through which

a user may cause the tuner to tune to a channel frequency indicated as being received by the DTV receiver in the channel map" is met by the inherent user interface, indicated by the fact that the "viewer changes channels to another ATSC channel, then microprocessor 111 immediately goes to the channel occupancy database entry in data memory 203 for the new channel" [col. 4, lines 37-40]. Furthermore, the claimed "means for monitoring the output signal of the demodulator to determine if the baseband signal is present and for adjusting the threshold value if the baseband signal is not present" is not explicitly met by the Grabb or Limberg references. While the Grabb and Limberg references teach all of that which is discussed above with regards to claim 1, they do not teach the concept of adjusting the threshold value if the baseband signal is not present. The Henderson reference teaches adjusting a threshold value if two much "snow" or noise is present instead of the baseband signal. This is performed based on the adjustment of a potentiometer for adjusting the predetermined threshold to which the IF AGC signal (the signal strength indicator) is compared [col. 6, lines 37-59]. It would have been obvious to one of ordinary skill in the art at the time of the invention to allow the threshold value to be adjustable, in order to allow for particular user preferences regarding the amount of intolerable signals that are presented.

Regarding claim 3, the claimed "apparatus according to claim 2, wherein the demodulator further provides a measure of estimated noise in the received DTV signal and the means for monitoring the output signal of the demodulator to determine if the baseband DTV signal is present, includes means for obtaining the measure of estimated noise from the demodulator if the baseband DTV signal is present and means

for adjusting the threshold value based on the measure of estimated noise" is not explicitly met by the Grabb or Limberg references. While the Grabb and Limberg references teach all of that which is discussed above with regards to claim 2, they do not teach the concept of adjusting the threshold value if the baseband signal is not present. The Henderson reference teaches adjusting a threshold value if two much "snow" or noise is present instead of the baseband signal. This is performed based on the adjustment of a potentiometer for adjusting the predetermined threshold to which the IF AGC signal (the signal strength indicator) is compared [col. 6, lines 37-59]. It would have been obvious to one of ordinary skill in the art at the time of the invention to allow the threshold value to be adjustable, in order to allow for particular user preferences regarding the amount of intolerable signals that are presented.

Regarding claim 4, the claimed "apparatus for deriving a channel map for a digital television (DTV) receiver" is met as follows:

- The claimed "channel map data structure configured to contain data values indicating specific channel frequencies that are received by the DTV receiver" is met by Control Microprocessor 111 and Data Memory 203 within database 112, which contains a channel occupancy database time indexed. The microprocessor 111 constructs and maintains the database 112, which contains information on each television channel [col. 3, lines 13-15].
- The claimed "user interface through which a user may specify a desired channel frequency from among the channel frequencies contained in the

channel map data structure" is met by the inherent user interface, indicated by the fact that the "viewer changes channels to another ATSC channel, then microprocessor 111 immediately goes to the channel occupancy database entry in data memory 203 for the new channel" [col. 4, lines 37-40].

- The claimed "first tuner, controlled by the processor to tune to a specified channel and provide a first tuned television signal having an amplitude" is met by the ATSC Tuner 104, which is dedicated to the particular channel in use [col. 3, lines 59-61].
- The claimed "second tuner, controlled by the processor in response to a desired channel frequency entered by a user through the user interface to provide a second tuned television signal" is met by the NTSC tuner 103, which sends an output signal with a measurable signal strength (amplitude) to the channel measurement module 113 and microprocessor 111 [col. 3, line 66 – col. 4, line 3 & col. 3, lines 15-18].
- The claimed "demodulator, coupled to the second tuner to demodulate the second tuned television signal to recover a baseband DTV signal therefrom" is met by the NTSC Audio/Video Decoder 105 and Display Format 106. The Decoder provides a decoded (and therefore, inherently demodulated) output signal to display circuitry 106 [col. 2, line 66 – col. 3, line 1].

- The claimed "amplitude detector coupled to the first tuner to provide a measure of the amplitude of the tuned television signal" is met by the Channel Measurement A/D 113, which is coupled directly to tuner 103 before the demodulation which takes place in Decoder 105 and records the signal strength (amplitude) of the channel [col. 4, line 1].
- The claimed "comparator, configured to compare the measure of amplitude provided by the amplitude detector to a threshold value and to provide an output signal having a first value if the measure of amplitude is greater than the threshold value and having a second value otherwise, wherein the processor is responsive to the output signal of the comparator having the first value, to change a value in the channel map data structure to indicate that the specified channel is received by the DTV receiver" is not met explicitly by the Grabb reference. While Grabb does teach acquiring an amplitude value from the signal (recording the signal strength of the channel, as discussed above), he does not explicitly disclose that the value is compared with a threshold value to determine the validity of the received signal. The Limberg reference, as noted in previous Office Actions, teaches a threshold detector 25 responsive to the detected amplitude exceeding a prescribed threshold value for determining that the TV signal currently being received is a digital television signal [col. 10, lines 50-57]. The threshold detector 25 [Fig. 1] has an output signal to the AFT Selector 23, which inherently indicates to the AFT Selector whether

or not the amplitude exceeded the prescribed threshold value. Furthermore, the Grabb reference makes discusses data entered in a database based on detection of a valid transmitter and how strong the signal is in order to create a channel map (Channel occupancy database time indexed of Figure 2) [col. 3, lines 38-45]. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a comparator, in order to compare a threshold amplitude value to a signal amplitude value instead of or as well as the functionality discussed in column 3, lines 38-45 of Grabb, for the purposes of "determining that the TV signal currently being received is a digital television signal". Furthermore, the claim that the "receiver is responsive to the demodulator to increase the threshold value if the demodulator does not provide a baseband signal for the channel frequency requested by the user" is not explicitly met by the Grabb or Limberg references. While the Grabb and Limberg references teach all of that which is discussed above, they do not teach the concept of adjusting the threshold value if the baseband signal is not present. The Henderson reference teaches adjusting a threshold value if two much "snow" or noise is present instead of the baseband signal. This is performed based on the adjustment of a potentiometer for adjusting the predetermined threshold to which the IF AGC signal (the signal strength indicator) is compared [col. 6, lines 37-59]. It would have been obvious to one of ordinary skill in the art at the time of the invention

to allow the threshold value to be adjustable, in order to allow for particular user preferences regarding the amount of intolerable signals that are presented.

Regarding claim 5, the claimed "apparatus according to claim 4, wherein the second tuner further provides a measure of estimated noise in the received DTV signal and the processor includes means for obtaining the measure of estimated noise from the second tuner when the baseband DTV signal is present and means for adjusting the threshold value based on the measure of estimated noise" is not explicitly met by the Grabb or Limberg references. While the Grabb and Limberg references teach all of that which is discussed above with regards to claim 4, they do not teach the concept of adjusting the threshold value if the baseband signal is not present. The Henderson reference teaches adjusting a threshold value if two much "snow" or noise is present instead of the baseband signal. This is performed based on the adjustment of a potentiometer for adjusting the predetermined threshold to which the IF AGC signal (the signal strength indicator) is compared [col. 6, lines 37-59]. It would have been obvious to one of ordinary skill in the art at the time of the invention to allow the threshold value to be adjustable, in order to allow for particular user preferences regarding the amount of intolerable signals that are presented.

Regarding claim 7, the claimed "method according to claim 6, further comprising steps for: tuning the DTV receiver to a channel frequency indicated as being present in the channel map" is met by the Grabb reference, wherein he teaches proceeding through the ATSC channel entries in the database of data memory 203 by tuning to the

channels via the NTSC tuner 103 [col. 3, line 59 – col. 4, line 31]. Furthermore, the step of "changing the threshold value if the demodulated tuned television signal is not a baseband DTV signal" is not explicitly met by the Grabb and Limberg references. The Henderson reference teaches adjusting a threshold value if two much "snow" or noise is present instead of the baseband signal. This is performed based on the adjustment of a potentiometer for adjusting the predetermined threshold to which the IF AGC signal (the signal strength indicator) is compared [col. 6, lines 37-59]. It would have been obvious to one of ordinary skill in the art at the time of the invention to allow the threshold value to be adjustable, in order to allow for particular user preferences regarding the amount of intolerable signals that are presented.

Regarding claim 8, see the above rejection to similar claim 3.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rambo (USP 4,499,606) discloses enhancing reception of FM broadcast in mobile receivers using a sensing circuit.

Shintani et al (USP 6,137,546) disclose another auto program feature for television receivers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael R. Shannon who can be reached at (571) 272-

7356 or Michael.Shannon@uspto.gov. The examiner can normally be reached by phone Monday through Friday 8:00 AM – 5:00PM, with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at (571) 272-7353.

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Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is **(571) 272-2600**.

Michael R Shannon
Examiner
Art Unit 2614

Michael R Shannon
August 24, 2005

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600